

**ESREL 2024 Final Program (draft 2)**

**Special Sessions – Working Material – 11.06.2024**

**ESREL 2024 CONFERENCE PROGRAM**

**23-27.06. 2024. Cracow, Poland**

**Faculty Of Mathematics And Informatics (FMI)**

**ESREL 2024 CONFERENCE PROGRAM**

**Sunday, June 23, 2024; Time: 17<sup>00</sup>-21<sup>00</sup>**

Time	Conference Events
17 <sup>00</sup> -19 <sup>00</sup>	Registration (FMI Hall)
19 <sup>00</sup> -21 <sup>00</sup>	Reception/Welcome Party (FMI)

**ESREL 2024 CONFERENCE PROGRAM**

**Monday, June 24, 2024; Time: 8<sup>30</sup>-23<sup>00</sup>**

Time	Conference Events
8 <sup>30</sup> -9 <sup>00</sup>	Registration (FMI Hall)
9 <sup>00</sup> -9 <sup>30</sup>	Opening Ceremony (Room S) Invitation and Welcome to ESREL 2024 by Krzysztof Kołowrocki, PSRA President and Conference Chairman Message from Michael Beer, ESRA Chairman Chair: Krzysztof Kołowrocki, Poland
9 <sup>30</sup> -10 <sup>00</sup>	Plenary Lecture (Room S) Title: <i>Health Aware Control and RUL Control of Degrading Systems</i> Speaker: Christophe Berenguer, France Chairs: Pierre Dersin, Sweden; Sylwia Werbińska-Wojciechowska, PSRA
10 <sup>00</sup> -11 <sup>00</sup>	Coffee/Tea Break (FMI)
	Sessions
	Stream G
	Stream G
	Stream G

	Room S7 Special Session 1: Next Generation Risk Assessment Modelling Methods (Dynamic and Dependent Tree Theory, D <sup>2</sup> T <sup>2</sup> ) 1 Organizers: John Andrews, Silvia Tolo	Room S7 Special Session 13: Risk Analysis And Safety In Standardization Organizers: Luca Landi, Fabio Pera	Room S7 Special Session 23: Hidden Markov Models in Reliability and Maintenance Organizers: Maria Luz Gámiz			
11 <sup>00</sup> -11 <sup>20</sup>	Title: Modelling Complexity In System Safety: Generalizing The D <sup>2</sup> T <sup>2</sup> Methodology Speakers: Silvia Tolo	Title: Development Of A Novel Integrated Smart System Based On Artificial Intelligence For The Management Of Operator Safety In Production Processes Speakers: Roberto Gabbrielli	Title: Hidden Markov Model for Remaining Useful Lifetime, towards a new strategy for training models Speakers: Manuel Ávila-Gómez			
11 <sup>20</sup> -11 <sup>40</sup>	Title: Importance Measures For Fault Tree Analysis Using Dynamic And Dependent Tree Theory, D <sup>2</sup> T <sup>2</sup> Speakers: John Andrews	Title: A New Reference Practice For The Safety Specialist On Machinery Directive Professional Profile Speakers: Luca Landi	Title: Hidden Markov Models to estimate maintenance efficiency Speaker(s): Mari Carmen Segovia-García			
11 <sup>40</sup> -12 <sup>00</sup>	Title: A Dynamic And Dependent Fault Tree Analysis For Shipping Systems Speakers: Francesco Pugliese	Title: Logistic Regression In Practice: Determining The Impact Resistance Of Polycarbonate Vision Panels With A Limited Data Set Speakers: Nils Bergstroem	Title: A Hidden Phase- type Markov model for simulating a Moran reservoir Speakers: María Luz.Gámiz			
12 <sup>00</sup> -12 <sup>20</sup>	Title: D <sup>2</sup> T <sup>2</sup> Analysis Of An Offshore Deluge	Title: Determination Of Impact Resistance Of	Title: Normal deviation of Gamma processes in			

	System Availability And Reliability Speakers: Francesco Pugliese	Aluminium Panels For Machine Guards Using Regressions Of Dataset Speakers: Fabio Pera	random media and their application in Reliability Speakers: Nikolaos Limnios			
	Special Session 2: Next Generation Risk Assessment Modelling Methods (Dynamic and Dependent Tree Theory, D <sup>2</sup> T <sup>2</sup> ) Organizers: John Andrews, Silvia Tolo	Special Session 14: LIFE SECURDOMINO. Real-Time Risk Assessment Of Industrial Facilities Based On The Integration Of Safety And Security Organizers: Gabriele Landucci, Zdeněk Vintř	Special Session 24: Strategies for Reliability, Safety and Uncertainty in Complex Systems Organizers: Namrata Mohanty, Shikha Dwivedi, Partha Chakrabarti, Anwesa Kar			
12 <sup>20</sup> -12 <sup>40</sup>	Title: D <sup>2</sup> T <sup>2</sup> Analysis Of A Loss Of Main Feed Water Accident Speakers: Silvia Tolo	Title: Development Of Advanced Tools For Safety-Security Integration Based On The Implementation Of Site-Specific Protections Speaker: Gabriele Landucci	Title: Risk Analysis of Battery Charging Approaches in Electric Vehicles: A Comparative Safety Assessment Speakers: Namrata Mohanty			
12 <sup>40</sup> -13 <sup>00</sup>	Title: Fault Tree Culling In The Dynamic And Dependent Tree Theory (D <sup>2</sup> T <sup>2</sup> ) Framework Through Approximation Techniques Speakers: Derek Yan	Title: Integration Of Safety And Security Aspects In The EU Context: Comparative Analysis Of Legislative Frameworks Speaker: Sanneke Kuipers	Title: Deep Neural Network Based Software Reliability Growth Model for Fault Prediction and Severity Assessment Speakers: Shikha Dwivedi			
13 <sup>00</sup> -14 <sup>00</sup>						
14 <sup>00</sup> -14 <sup>20</sup>	Title: A Framework Modelling Approach For Standby Systems In Fault Tree Analysis Speakers: Francesco Pugliese	Title: Real-Time Three-Dimensional Safety-Security Assessment Of Process Facilities In Critical Areas Speaker: Dino Dentone	Title: Reliability Evaluation of Multistate Flow Network Using Pre-ordered Minimal Paths			

			Speakers: Partha Chakrabarti			
14 <sup>20</sup> -14 <sup>40</sup>	Title: NxGen Toolbox: An Overview Speakers: Silvia Tolo	Title: Maghreb As A Critical Area For The Oil/Gas Facilities In The Security Context: The Algeria Case Study Speaker: Francesco Tamburini	Title: Neutrosophic MCDM Based Risk: Centric Six Sigma Assessment Approach for Supplier Selection Speakers: Anwesa Kar			
	Special Session 3: Advances In Maintenance Modelling And Its Applications Organizers: Lucía Bautista Bárcena, Inmaculada Torres Castro	Special Session 15: Data-Driven Predictive Maintenance Organizers: Mihaela Mitici, Zhiguo Zeng, David Coit				
14 <sup>40</sup> -15 <sup>00</sup>	Title: Developing Maintenance Strategies For A Degradation Model With Partial Maintenance Effects Speakers: Margaux Leroy, Christophe Bérenguer, Olivier Gaudoin, Laurent Doyen	Predictive Maintenance For Batteries Of Electric Take-Off And Landing Aircraft Vehicles (Evtols) By Mihaela Mitici, Zhiguo Zeng, David Coit Speakers: Mihaela Mitici				
15 <sup>00</sup> -15 <sup>20</sup>	Title: Maintenance Of Degrading Units: A New Policy And Some Critical Considerations About The Value Of Inspections Speakers: Antonio Piscopo, Nicola Esposito, Bruno Castanier, Massimiliano Giorgio	Title: Physics-Informed Prognostics For Complex Systems Using Machine Learning By Aditya Sanju, Zhiguo Zeng, David Coit, Anne Barros, Mihaela Mitici Speakers: Zhiguo Zeng				
15 <sup>20</sup> -15 <sup>40</sup>	Title: Parameter Estimation In A Bivariate Wiener	Title: Active Learning With Contrastive Sensor Transformer For				

	Degradation Subject To Imperfect Maintenance Considering Five Observation Schemes Speakers: Inma T. Castro, Lucía Bautista, Christophe Bérenguer, Olivier Gaudoin, Lauren Doyen	Predictive Maintenance By Zaharah Bukhsh Speakers: Zaharah Bukhsh				
15 <sup>40</sup> -16 <sup>00</sup>	Title: Parametric Estimation Of Ageing And Maintenance Efficiency For Left Censored Data Speakers: Théo Cousino, Laurent Doyen, Olivier Gaudoin, Florent Brissaud, Leïla Marle	Title: Machine Learning Models To Anticipate Failures For Bridge Rebars By Zhanhang Li, David Coit, Hani Nassif Speakers: Zhanhang Li				
16 <sup>00</sup> -23 <sup>00</sup>	ESRA General Assembly (Room S1, Time: 16 <sup>00</sup> -18 <sup>00</sup> ) Individual Sightseeing of Cracow and Surrounding Areas					

## ESREL 2024 CONFERENCE PROGRAM

**Tuesday, June 25, 2024; Time: 8<sup>30</sup>-23<sup>00</sup>**

Time	Conference Events					
8 <sup>30</sup> -9 <sup>00</sup>	Registration (FMI Hall)					
9 <sup>00</sup> -9 <sup>30</sup>	Plenary Lecture (Room S)					
	Title: <i>Reliability of Conventional Electric Power Supply Versus Self-Sufficient Supply</i> Speaker: Marko Čepin, Slovenia Chairs: David Coit, USA; Jacek Malinowski, PSRA					
9 <sup>30</sup> -10 <sup>00</sup>	Plenary Lecture (Room S)					
	Title: <i>Sustainability, safety, and security related research challenges in times of dynamic global and regional changes</i> Speaker: Kazimierz Kosmowski, Poland Chairs: David Coit, USA; Paweł Gołda, Poland					
10 <sup>00</sup> -11 <sup>00</sup>	Coffee/Tea Break (FMI)					
	Sessions					
	Stream G Room S7	Stream G Room S7				
	Special Session 4: Survival Signature For System Reliability Organizers: Frank Coolen	Special Session 16: Human AI Teaming & Collaborative Intelligence For Safety Critical Systems Organizers: Maria Chiara Leva, Hector Diego Estrada Lugo, Bernard Moser				
11 <sup>00</sup> -11 <sup>20</sup>	Title: Survival Signature For System Reliability: Main Challenges Speakers: Frank Coolen	Title: Defect Detection in Vehicle Painting: Case Study Speakers: Doaa Almhaithawi and Alessandro Bellini				
11 <sup>20</sup> -11 <sup>40</sup>	Title: Efficient Estimation Of Survival Signatures Through Simulation With Depth- First Search Of Indices	Title: Wearable Devices Enhancing Human Capabilities In Direct Enamel Painting Defect Detection				

	Speakers: Sean Reed, Magnus Lofstrand	Speakers: Carlos Albarrán Morillo				
11 <sup>40</sup> -12 <sup>00</sup>	Title: Generalizing The Diagonal Approximated Signature To Systems With Multiple Component Types Speakers: Niklas R. Winnewisser, Julian Salomon, Yan Shi, Matteo Broggi, Michael Beer	Title: Building An Integrated Legal And Ethical Framework For Collaborative Intelligence: Towards More Interdisciplinary Approach To Human-Robot Collaboration Speakers: Naira López Cañellas				
12 <sup>00</sup> -12 <sup>20</sup>	Title: Optimal Design Of Radial Based Interval Predictor Models As Surrogates For The Survival Signature Speakers: Jasper Behrendorf, Matteo Broggi, Michael Beer	Title: Lessons Learnt From Human-In-Loop Experimental Scenarios For Advanced Automation In Process Safety Speakers: Chidera Winifred Amazu, Joseph Mietkiewicz, Ammar N. Abbas, Gabriele Baldissoni, Micaela Demichela, Davide Fissore, and Maria Chiara Leva				
	Special Session 5: Case Studies On Industrial Predictive Reliability: Focus On Numerical Validation Organizers: Ewelina Czerlunczakiewicz, Maciej Majerczak, Marco Bonato					
12 <sup>20</sup> -12 <sup>40</sup>	Title: Nonlinear Dynamic Simulations Of Automotive Component Undergoing Vibration Loadings	Title: A Comparative Analysis of Mental Workload in Adaptive Human-Robot				

	Speakers: Maciej Majerczak, Ewelina Czerlunczakiewicz	Collaboration During Assembly Tasks Speakers: Carlo Caiazzo, Marija Savkovic, Milos Pusica, Nastasija Nikolic, Ivan Macuzic, Marko Djapan				
12 <sup>40</sup> -13 <sup>00</sup>	Title: Reliability Prediction Based On Predefined Standard Of An Ultra-High Performance CMOS Buffer. Speakers: Gabriele Serpi	Title: The Role Of Human Dynamics In Effective Robot Learning Through Programming By Demonstration Speakers: Shakra Mehak				
13 <sup>00</sup> -14 <sup>00</sup>						
14 <sup>00</sup> -14 <sup>20</sup>	Title: Reducing Analysis Time In Non-Linear Transient Dynamic Fatigue, Using Iso-Damage PSD And Surrogate Model Speakers: Amaury Chabod	Title: Navigating Fine Line Between Operational Effectiveness And Mental Overload In Control Room Operations Speakers: Andrés Alonso Pérez, Houda Briwa				
	Special Session 6: Reliability And Resilience Of Complex Systems, And Systems Of Systems Organizers: Pierre Dersin					
14 <sup>20</sup> -14 <sup>40</sup>	Title: Modeling Reliability And Resilience Of Dual-Function Power Station	Title: ROBOMATE: A case for Reconfigurable Collaborative Robots in Manufacturing				



	Speakers: Darragi Messaoudi, Amr Abdellaoui	Speakers: Nobel John William et Robomate team				
14 <sup>40</sup> -15 <sup>00</sup>	Title: A Network Analysis To Evaluate The Resilience Of Urban Transit Systems Speakers: Celine Wehbe, Hiba Baroud, Kenza Saïah	Title: Human-Machine teaming in the manufacturing environment: Preliminary interface example Speakers: Hector Diego Estrada-Lugo, Maria Chiara Leva, Manuel Jesús Batista Sánchez, Txus Blasco García, Julen Aperribay, Javier Dominguez Ledo, Bernhard Heinzl, Agastya Silvina				
		Special Session 17: Assessment Of Physical Protection Systems Organizers: Zdenek Vintr				
15 <sup>00</sup> -15 <sup>20</sup>	Title: Enhancing The Resilience Of Critical Infrastructures By Optimal Allocation Of Redundant Interdependencies Speakers: Andrea Bellè	Title: An Approach To The Analysis Of Security Measure Effectiveness Considering Epistemic Uncertainty In Scenario Likelihood Speakers: Dustin Witte, Daniel Lichte, Kai-Dietrich Wolf				
15 <sup>20</sup> -15 <sup>40</sup>	Title: Reliability and Resilience of Complex Systems, and Systems of Systems Speakers: Pierre Dersin	Title: Assessment Of The System Of Monitoring And Tracking Of People As Physical Protection				

		Speakers: Erika Skypalova, Radoslav Kuffa, Tomas Lovecek				
15 <sup>40</sup> -16 <sup>00</sup>		Title: Current Trends And Experience In The Soft Targets Protection Speakers: Martin Hromada, Martin Bajer				
16 <sup>00</sup> -23 <sup>00</sup>	<p>Individual Sightseeing of Cracow and Surrounding Areas</p> <p>Folklore Picnic in The Inn Under The Great Salt (Testing Regional Food, Beer and Wine, Singing and Dancing, Time: 18<sup>00</sup>-22<sup>00</sup>)</p> <p>Going by Buses to The Inn Under The Great Salt (Start at 17<sup>00</sup> from in front of Faculty of Mathematics and Informatics)</p> <p>Going Back by Buses from The Inn Under The Great Salt (Start at 22<sup>30</sup> from in front of Inn Under Great Salt) to in front of Faculty of Mathematics and Informatics</p>					

## ESREL 2024 CONFERENCE PROGRAM

**Wednesday, June 26, 2024; Time: 8<sup>30</sup>-23<sup>00</sup>**

Time	Conference Events					
8 <sup>30</sup> -9 <sup>00</sup>	Registration (FMI Hall)					
9 <sup>00</sup> -9 <sup>30</sup>	Plenary Lecture (Room S)					
	Title: <i>Bayesian Belief Nets Models in Safety and Reliability</i> Speakers: Dorota Kurowicka, Netherlands Chairs: Floris Goerlandt, Canada; Jakub Montewka, PSRA					
9 <sup>30</sup> -10 <sup>00</sup>	Plenary Lecture (Room S)					
	Title: <i>Asymptotic Approximation Techniques for Reliability of Complex</i> Speakers: Nikolaos Limnios, France Chairs: Floris Goerlandt, Canada; Jakub Montewka, PSRA					
10 <sup>00</sup> -11 <sup>00</sup>	Coffee/Tea Break (FMI)					
	Sessions					
	Stream G Room S7	Stream G Room S7				
	Special Session 7: Quantum-Based Optimization And Inference For Risk And Reliability Applications Organizers: Enrique Lopez Droguett, Marcio Moura, Isis Lins	Special Session 18: Advances In Reliability Engineering And Risk Management In Oil And Gas Industries Organizers: Márcio José das Chagas Moura, Isis Didier Lins, Enrique Andrés López Droguett, Manoel Feliciano Silva				
11 <sup>00</sup> -11 <sup>20</sup>	Title: Quantum Inference And Optimization In Risk And Reliability: A Critical Review Speakers: Gabriel San Martin, Enrique Lopez Droguett	Title: Subsea Equipment Reliability: A Critical Analysis of Existing Literature Speaker: July Bias Macêdo				
11 <sup>20</sup> -11 <sup>40</sup>	Title: Exploring Quantum Optimization Methods For The	Title: Safety In Light Workover Subsea BOP Operations				

	Redundancy Allocation Problem Speakers: Isis Didier Lins, Lavínia Maria Mendes Araújo, Caio Bezerra Souto Maior, Márcio José das Chagas Moura, Vitória Milena Alves Bezerra	Speaker: Márcio Dendena				
11 <sup>40</sup> -12 <sup>00</sup>	Title: Quantum-Based Optimization For Critical Infrastructure Health Monitoring Speakers: Gabriel San Martin, Enrique Lopez Droguett	Title: Using TLM to calculate Risk of Wet Christmas Tree Speaker: Adriana M. Schleder				
12 <sup>00</sup> -12 <sup>20</sup>	Title: Inference In Quantum Bayesian Networks Speakers: Auguste Hirth, Enrique Lopez Droguett	Title: Method to Evaluate Similarity of Completion Equipment Using Deep Learning Speaker: Eduardo Novaes				
	Special Session 8: Quantum Machine Learning For Risk And Reliability Applications Organizers: Enrique Lopez Droguett, Isis Lins, Enrico Zio					
12 <sup>20</sup> -12 <sup>40</sup>	Title: Quantum Generative Models For Prognostics And Health Management Speakers: Aadi Tiwari, Gabriel San Martin, Enrique Lopez Droguett, Gustavo Leite	Title: Modeling an optimal reliability test planning problem for completion technologies under development Speaker: Caio Bezerra Souto Maior				

12 <sup>40</sup> -13 <sup>00</sup>	Title: Exploring Encodings For Quantum Machine Learning Applied To The Diagnosis Of Rotating Machinery Speakers: Caio Bezerra Souto Maior, Isis Didier Lins, Lavínia Maria, Mendes Araújo, Márcio José das Chagas Moura, Arthur Dantas Benevides Costa	Title: Integrated inspection planning optimization and routing inspection vessels for multiple petroleum offshore equipment Speaker: Adriana M. Schleder	Title: Speakers:			
13 <sup>00</sup> -14 <sup>00</sup>	Lunch (FMI Venue 1 and FMI Venue 2)					
14 <sup>00</sup> -14 <sup>20</sup>	Title: Diagnosis Of Rolling Bearings Via Noisy Quantum Machine Learning Speakers: Lavínia Maria Mendes Araújo, Isis Didier Lins, Caio Bezerra Souto Maior, Márcio José das Chagas Moura	Title: Deep Learning for Fault Classification Using Digital Twin Centrifugal Pump Speaker: Eduardo Menezes				
		Special Session 19: Hidden Markov Models In Reliability And Maintenance Organizers: Maria Luz Gámiz				
14 <sup>20</sup> -14 <sup>40</sup>	Title: Evaluation Of Accident Reports With Quantum Natural Language Processing Speakers: July Bias Macêdo, Márcio José das Chagas Moura, Caio Bezerra Souto Maior, Isis Didier Lins	Title: Bridging The Gap: A Comparative Analysis Of Maintenance Practices In Industry 4.0 Speakers: Mario Di Nardo				
	Special Session 9:					

	Hidden Markov Models In Reliability And Maintenance Organizers: Maria Luz Gámiz					
14 <sup>40</sup> -15 <sup>00</sup>	Title: Hidden Markov Model For Remaining Useful Lifetime, Towards A New Strategy Form Training Models Speakers: Manuel Ávila-Gómez	Title: The Path From Industry 4.0 To Industry 5.0: An Analysis Of New Trends In Safety Management Speakers: Mario Di Nardo - Virgilio Federico				
15 <sup>00</sup> -15 <sup>20</sup>	Title: Hidden Markov Models To Estimate Maintenance Efficiency Speakers: Mari Carmen Segovia-García	Title: How European Artificial Intelligence Act Impacts On Machinery Products Speakers: Marianna Madonna				
15 <sup>20</sup> -15 <sup>40</sup>	Title: A Hidden Phase-Type Markov Model For Simulating A Moran Reservoir Speakers: Manuel Ávila-Gómez					
15 <sup>40</sup> -16 <sup>00</sup>	Title: Normal deviation of Gamma processes in random media and their application in Reliability Speakers: Nikolaos Limnios					
16 <sup>00</sup> -23 <sup>00</sup>	Individual Sightseeing of Cracow and Surrounding Areas Gala Dinner and Mecanical Music with DJ (Folwark Zalesie, Time: 18 <sup>00</sup> -22 <sup>00</sup> ) Going by Buses to Folwark Zalesie (Start at 17 <sup>00</sup> from in front of Faculty of Mathematics and Informatics) Gala Dinner in The Folwark Zalesie (Testing Food and Wine, Singing and Dancing, Time: 18 <sup>00</sup> -22 <sup>00</sup> ) Going Back by Buses from Folwark Zalesie (Start at 22 <sup>30</sup> from in front of Folwark Zalesie) to in front of Faculty of Mathematics and Informatics					

## ESREL 2024 CONFERENCE PROGRAM

**Thursday, June 27, 2024; Time: 8<sup>30</sup>-20<sup>00</sup>**

Time	Conference Events					
8 <sup>30</sup> -9 <sup>00</sup>	Registration (Faculty of Mathematics and Informatics Hall)					
9 <sup>00</sup> -9 <sup>30</sup>	Plenary Lecture (Room S)					
	Title: <i>Resilient Water Infrastructure at Climate Change Conditions</i> Speakers: Dieter Lompe, Germany Chairs: Terje Aven, Norway; Paweł Gołda, Poland					
9 <sup>30</sup> -10 <sup>00</sup>	Plenary Lecture (Room S)					
	Title: <i>Multi-State Systems and Their Applications in Reliability Analysis</i> Speakers: Elena Zaitseva, Slovakia Chairs: Roger Cooke, USA; Jacek Malinowski, PSRA					
10 <sup>00</sup> -11 <sup>00</sup>	Coffee/Tea Break (FMI)					
	Sessions					
	Stream G Room S7	Stream G Room S7				
	Special Session 10: Recent Ontological, Methodological, And Operational Advances In Resilience Organizers: Omar Kammouh, Hiba Baroud, Maria Nogal	Special Session 20: Safe And Sustainable Hydrogen Technologies 1 Organizers: Nicola Paltrinieri				
11 <sup>00</sup> -11 <sup>20</sup>	Title: The Risk Of Divergence In Resilience Speakers: Hiba Baroud, Omar Kammouh, Maria Nogal	Title: Hydrogen Risk Mitigation By Catalytic Recombiners Speakers: Ernie Reinecke				
11 <sup>20</sup> -11 <sup>40</sup>	Title: Effects Of Workforce Productivity On Infrastructure Resilience	Title: Risk In A Hydrogen Refueling Station Due To Uncontrolled Gas Release				

	Speakers: Neetesh Sharma, Omar Kammouh, Maria Nogal, Paolo Gardoni	Speakers: Wojciech Kosman				
11 <sup>40</sup> -12 <sup>00</sup>	Title: What Is Resilience? Let's Ask International Experts From Across Various Fields. Speakers: Sandra Andraszewicz, Adam Charles Roberts, Léane Wettstein, Leila Straub	Title: Hydrogen Explosion Risk Assessment Speakers: Nabih Chaumeix				
12 <sup>00</sup> -12 <sup>20</sup>	Title: Operationalizing Resilience In The Context Of Complex Systems: A Systematic Roadmap Speakers: Yiping Fang, Adam Abdin, Min Ouyang, and Hiba Baroud	Title: Comparing Inspection Strategies For Hydrogen Refueling Stations: Time-Based And Risk-Based Approaches Speakers: Alessandro Campari				
	Special Session 11: Towards Resilience Assessment Of Power Systems Organizers: Vytis Kopustinskas	Special Session 21: Safe And Sustainable Hydrogen Technologies 2 Organizers: Nicola Paltrinieri				
12 <sup>20</sup> -12 <sup>40</sup>	Title: Resilience Analysis For The Electric Power Transmission Grid With A Criticality Measure Based On Cascade Simulations Speakers: Endika Urresti Padrón, Artur Swietanowski, Patryk Popinski, Kacper Samul, Alicja Massé, Maciej Mazurek,	Title: HRS Safety Critical Considerations From Incident Analysis Speakers: Eulàlia Badia				



	Gabriela Jurkiewicz, Marcin Ganko					
12 <sup>40</sup> -13 <sup>00</sup>	Title: Modelling Power Disruption Scenarios In The Baltic Region Using Pypsa Speakers: Isabel Asensio Bermejo, Hrvoje Foretić, Vytis Kopustinskas	Title: Investigation Of Safety Barriers Role In Hydrogen-Related Undesired Events Speakers: Giulia Collina				
13 <sup>00</sup> -14 <sup>00</sup>	Lunch (FMI Venue 1 and FMI Venue 2)					
14 <sup>00</sup> -14 <sup>20</sup>	Title: Applications Of Contingency Analysis To Improve Robustness And Resiliency Of Power Systems Speakers: Illia Diahovchenko, Andrew Keane	Title: Optimizing Inspection Strategies For Hydrogen Pipelines: A Cost-Effective Perspective Speakers: Leonardo Giannini				
14 <sup>20</sup> -14 <sup>40</sup>	Title: Cost Of Resilient Power System With High Penetration Of Renewable Energy Sources Speakers: Jonas Vaičys, Saulius Gudžius, Audrius Jonaitis	Title: Public Perception And Acceptance Of Hydrogen Technologies Speakers: Roser Sala				
	Special Session 12: Towards Resilience Assessment Of Critical Infrastructure Organizers: Vytis Kopustinskas	Special Session 22: Cost-Benefit Decisions Under Uncertainty Organizers: Kai-Dietrich Wolf, Enrico Zio				
14 <sup>40</sup> -15 <sup>00</sup>	Title: Analysing Railway Network Interdependencies: Simulation Of Reactionary Delay And Automated Rescheduling	Title: Cost-Benefit Analysis For Critical Infrastructure Protection: Effectively Balancing Security And Resilience				

	Speakers: Tan Kang Rui, Rasa Remenyte-Prescott, Darren Prescott, Julia Culley	Speakers: Lukas Halekotte, Tobias Demmer				
15 <sup>00</sup> -15 <sup>20</sup>	Title: Risk Of Blackouts And Social Vulnerability In The Italian Power Transmission System Speakers: Andrej Stankovski, Katherine Emma Lonergan, Blazhe Gjorgiev, Giovanni Sansavini	Title: Resilience Management Of Critical Infrastructures: Assessing Control Strategies Under Societal Values And Model Uncertainties Speakers: Tobias Demmer, Ingo Schönwandt				
15 <sup>20</sup> -15 <sup>40</sup>	Title: Resilience Assessment Case Study Of A Gas Network Speakers: Vytis Kopustinskas, Bogdan Vamanu, Andrius Dagys, Clemente Fuggini	Title: On Pareto Optimality In Cost-Effectiveness Analysis Of Physical Security Concepts Speakers: Dustin Witte,				
15 <sup>40</sup> -16 <sup>00</sup>	Title: On Selection Of Relevant Safety And Security Scenarios For Detailed Modelling Speakers: Babette Tecklenburg	Title: On Pareto Optimality In Cost-Effectiveness Analysis Of Physical Security Concepts: A Case Study Using A Simplified Metric Speakers: Thomas Termin				
16 <sup>00</sup> -16 <sup>30</sup>	Closing Ceremony (Room S) Thanks to Participants and Summary of ESREL 2024 by Krzysztof Kołowrocki, PSRA President and Conference Chairman Message from Michael Beer, ESRA Chairman Chair: Krzysztof Kołowrocki, Poland					
16 <sup>30</sup> -20 <sup>00</sup>	Organized Guided and Individual Sightseeing of Cracow and Surrounding Areas					

**In the ESREL 2024 Final Program all Papers and Extended Abstracts included in the Special Sessions which are not paid will be removed. Also, the Names of Persons who were not registered will be removed from it.**